

Averaging and Subsetting Tools Workshop

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MODIS L3 Product Options

* Input Options:

- Single Granule (scene)

- Multiple Granules (time based, limited to a single data-day)

- Band Selection

* Algorithm Options:

- Resampling options

 - Nearest Neighbor, Bi-linear, Cubic Convolution, Image Restoration,

 - Maximum Likelihood Est., Aggregation Methods for Coarse Grids,

 - Fill Handling, etc.

- Handling of Scan Overlap

- Possibly Atmospheric Correction

- Compositing Options for Multiple Granules (Cloud mask,

 - Maximum Value, Scan Angle, etc.)

* Output Options:

- Global Grid or Regional Grid (Int. Sinusoidal, Goode Homolosine, Polar, etc.)

- Geographic Region of Interest

- Grid Resolution (250 m, 500 m, 1 km, and coarser)

Global Product Size

1 km -> 100 to 160 MB per band (depends on grid)

- 36 bands (with 1 byte QA) -> 3.7 to 5.9 GB

500 m -> 400 to 640 MB per band

- 5 bands (with 1 byte QA) -> 2.2 to 3.5 GB

250 m -> 1600 to 2560 MB per band

- 2 bands (with 1 byte QA) -> 4.0 to 6.4 GB

On-demand vs. Standard

- * Standard Product -
 - Options Fixed by Sci. Team
 - Discipline Specific Product/Options may be Needed
 - Archived
- * On-demand at DAAC -
 - All options above can be selected by User
 - ECS Developed Interface Required (New)
 - Defaults Set by Science Team (Discipline Specific)
- * Processing Request at DAAC -
 - "N" Additional Products with Fixed Options
 - Run at User Request
- * Tool at User Site -
 - Same Options Available
 - Tools for handling input granules
 - large number - 144 day mode granules per day
 - size - all 36 bands: 450 MB per granules, 64.8 GB
 - just three 1 km bands: 19 MB per granule, 2.7 GB
 - Band Subsetting Done at DAAC to Reduce Data Transmitted

L2G Surface Reflectance -> L3

- * Same Algorithm Options
 - Less cost because data reorganization already done
- * Change in Grid/Resolution Require Additional Work
- * Currently Limited to L2G Surface Reflectance Bands
 - Easily expanded to other bands
- * Two Grids Currently Implemented, Third Grid for V2